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## John Gould Anthony With a Bibliography and Catalogue of His Species

By RUTH D. TURNER

John Gould Anthony, son of Joseph and Mary Gould Anthony and first assistant in charge of mollusks at the Museum of Comparative Zoölogy at Harvard College, was born in Providence, Rhode Island, May 17, 1804. Regarding Anthony's childhood we know very little except that at an early age he developed an interest in natural history and, while living in Providence, was mainly interested in marine shells. Although at the age of twelve he was forced to leave school and earn his own living, he continued his interest in natural history and educated himself in the field of mollusks. In 1832 Anthony married Ann Whiting Rhodes of Providence and two years later, with other members of the Rhodes family, moved to Cincinnati, Ohio. The records show that Anthony held several positions while in Ohio, the first with Allen, Rhodes & Company, Silver Plate Manufacturers. In 1840 he was listed as an independent accountant. Four years later he was working with Derby Bradley & Company into which firm he was later taken as a partner; by 1849 the company was known as Bradley and Anthony, Booksellers and Publishers. There are several published notes to the effect that Anthony worked in a bank but no definite record of this can be found.

Shortly after Anthony's arrival in Cincinnati he was elected to membership in the Western Academy of Natural Sciences, and, throughout his stay in Ohio, he was an ardent supporter of the struggling young Academy. He held the offices of sec-

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retary, librarian, and curator on various occasions and the meetings were often held at his home.

He soon became the local authority on the fossils of the Blue Limestone of Cincinnati. The varied forms of our midwestern terrestrial and fluviatile shells also attracted Anthony's attention and he rapidly built up a fine collection, specializing first in the Unionidae and later in the Pleuroceridae. By 1839 he was carrying on a very active exchange in the hope of assembling a complete collection of North American shells.

In 1847 his health and eyesight were seriously impaired after contracting scarlet fever from his youngest daughter, then two years old. His son wrote that "for two years he was unable to see his hand in front of his face and it was seven years before he was able to return to business." We have come across numerous references to Anthony's eye trouble as it affected both his business and scientific life.

In 1849 Anthony sent the descriptions and specimens of sixteen new species of *Melania* to Dr. A. A. Gould at the Boston Society of Natural History for publication in the Proceedings of that Society. Later, in a notebook containing an annotated collection of his papers he wrote the following: "My vision at that time being very much obscured owing to a disease of the eyes, could not be fully depended upon for nice discrimination in regard to species, and Dr. Gould was requested to examine and compare the specimens forwarded, making such corrections and additions as his better vision and more extended means of comparison might suggest, so that the descriptions when published might be as complete and perfect as possible. To some extent this was done." On the label of the type specimen of *Melania brevispira*, which was described in this paper Anthony wrote: "determined by touch alone while I was blind."

In June 1853, in an effort to restore his health and to further his study of fresh-water shells, Anthony made a walking trip from Cincinnati, Ohio through Kentucky and Tennessee to Macon, Georgia. Anthony's notes, letters and original labels have added but little to his published record of the trip and though several people have tried to follow Anthony's route it has been practically impossible. The following note given to me by William J. Clench concerning his attempt to cover Anthony's route is of real interest here. "During the summer



*John G. Anthony*

1804 - 1877

Plate 15. From an original photograph  
copied by F. P. Orchard

of 1924, P. S. Remington and I attempted to follow the route of Anthony from Cincinnati, Ohio, at least as far south as Chattanooga, Tennessee. This, of course, was only part of a program, outlined by Calvin Goodrich of the University of Michigan, for a general reconnaissance in Kentucky, Tennessee and northern Alabama for future river surveys of the mollusks in these states, mainly for Pleuroceridae. Anthony had left but little data behind for us to go upon. He had listed his new species only by states, and not in the form of specific localities. Old maps were consulted for roads that may have been followed between the larger cities. Our attempt was to collect at all creeks, rivers and springs along the way. We were fortunate in collecting many of the species of Anthony, probably at the type localities or at least in the same streams that he had visited many years before."

Due to lack of proper precautions in caring for his collections in the field, Anthony, on returning home, apparently had a rather serious mixture of lots (Goodrich 1931). However, in going over many of his notes and original labels we have found references to specific localities as well as discrepancies between the data given on labels and those published. This additional material has been included in square brackets under the proper species in the catalogue accompanying this paper.

On returning from this trip Anthony was still unable to work except for occasional bookkeeping, apparently done at home. This period must have been one of great difficulty for the Anthony family, for his sons, Thomas and Edward, both left school in order to help support the family. In a letter to Thomas Bland, Anthony wrote, "During my troubles my shells were my mainstay on every occasion. To use my friend's language . . . 'I had enjoyed the pleasure of collecting my shells, the satisfaction of looking at and studying them when collected, and now I am eating them,' which in my case was true, since when my funds ran low and I could earn nothing I literally sold my shells to procure bread — and a good source of income it was too — 2 or 300 dollars at a time did I sell of shells and fossils — many of my chosen specimens were sacrificed which I may not soon replace and my library too followed suit. . . ." However, even this was not enough and in 1856 Anthony wrote E. R. Mayo that he was "over head and ears in business at last



trying to make my bread and butter, after so long eating upon the small stock I had previously made — to tell the truth I had about found the end of my string and it was a work of necessity to do something more substantial than work over shells and collect specimens." Anthony was at this time with Taylor and Anthony, General Insurance Agents. He continued in partnership with Taylor until he left Ohio to become assistant in the Museum of Comparative Zoölogy.

Anthony collected all species in large quantities and exchanged with conchologists throughout the world. Many of his species he named and sent out on exchange before the descriptions had been published. Consequently many of the species which appear in Reeve's *Conchologia Iconica*, though isolated by Anthony, must be credited to Reeve. In most cases Anthony never did publish descriptions of these species, but a few species sent to Cuming, Anthony later described and published. Reeve, however, having access to the Cuming collection also described them, crediting them to Anthony. Since Reeve's monograph came out a few months before Anthony's paper, the credit must go to Reeve who fortunately did not change any of Anthony's manuscript names. In Brot's catalog of the *Melania* (1862) there are two Anthony names which do not appear elsewhere and which were apparently undescribed species sent to Brot. This is also the case with *Melania obliqua* listed by Tryon as a synonym of *Melania incisum* Lea. In 1852 Temple Prime wrote Anthony concerning his proposed monograph of the Corbiculidae, asking for material on old and new species. Anthony immediately responded by sending the descriptions and specimens of several new species of *Cyclas* and *Pisidium* which Prime published and credited to Anthony as was the accepted procedure of the day. However, according to the International Rules of Zoölogical Nomenclature, the person who publishes the species is the one to whom the credit for the name must go. All species, so far as can be determined, which have been credited to Anthony but published by others have been included in the following catalogue.

In many of Anthony's letters he refers to the K K's, very probably a conchological club, an association of correspondents with whom he had exchanged through the years. His "King" of the KK's was Hugh Cuming with whom Anthony had many profitable exchanges.

When Spencer F. Baird became Assistant Secretary of the Smithsonian Institution, he immediately tried to build up the collections and asked all zoologists to contribute. Printed labels were supplied collectors by the Smithsonian Institution, and Anthony on receiving those prepared by Lea for the *Unios* was incensed. The following quotation is a portion of a letter written to Baird in which he complains bitterly concerning the practice of that time of claiming authorship of a species by merely changing it to a different genus. Unfortunately this practice was continued until about 1900.

Office of Taylor & Anthony,  
General Insurance Agents,  
76 West Third Street,  
Cincinnati, July 24th, 1860

Spencer F. Baird Esq.

My dear Sir:

I wrote you respecting labels for the *Unio*'s designed for the Cabt. of the Smithsonian Institution and have since rec'd a set of the labels in question, but on examining them I find them most extraordinarily defective, particularly in regard to species which I have taken great pains to prepare for the Collection. About One hundred Names of well known species have been entirely omitted altho' they are such as generally form the basis of exchanges & many of them are superseded it seems by names of Mr. Lea's which are at best only entitled to rank as synonyms—Now it seems to me that the only fair & honest way to print a Catalogue of American Unionidae is to adopt the plan pursued in some other parts of the General list, viz to include every species published by various Authors leaving the synonymy to be worked out by each one as he sees fit, or if there must be an expurgated list, for heaven's sake intrust it to *unprejudiced & disinterested* hands to be arranged with at least the appearance of honesty and justice—If this list is to be made the *Authorised & only Authorised* list, why I have not the slightest hesitation in saying that I for one cannot conform to it and if the shells for your Collections must be labelled by it, some one other than myself must do it, for I cannot rec-

ognize a list so manifestly incorrect and govern myself by it in naming my specimens—After pursuing the study of Conchology for 35 years during all which time I have been engaged in numerous and large exchanges and for 26 years past having distributed Annually many thousands of *Unio*'s under their true names I cannot consent at this late day to abandon them merely to minister to the inordinate and insane Ambition of Isaac Lea, to be considered the *only* American Conchologist—And how will our transatlantic Naturalists regard such a published list purporting to be a *Complete* list of American Unionidae when they find it ignoring such names as *Unio crassus* Say, *U. heros* Say, *U. politus* Say, *U. lapillus* Say, *U. cicatricosus* Say, *U. nexus* Say, *U. metallicus* Say, *U. subrostratus* Say, *U. glebulus* Say, and *U. purpureus* Say, all well known names. True Mr. Lea is very careful to include *U. complanatus* *Lea* which he says is the same as *U. purpureus* Say, which name of *complanatus* he contends should supersede it because Solander had a "*Mya complanata*" & he endeavors to show that *Mya c.* was intended to represent our *Unio purpureus* hence he transfers it to "*Unio*" & thereupon proceeds to append *his own Name as author* without ever describing it & robbing thereby both Say and Solander at one Operation. Prof. Rafinesques Names with the single exception of "*Metanevra*" are entirely set aside to make room for Mr. Lea's subsequent christenings— & such names as "*torsus*" "*costatus*" "*flavus*" & *cardium*, with some 30 others must all be passed by as unworthy of notice because Mr. Lea affects not to understand them—Now Mr. Lea May print as many such Catalogues & synopses as he pleases and every one he has printed has varied from its predecessor according to his fancy for the time, and I would say nothing, but I do not like to find the Smithsonian Institution lending its influence to Circulate any such errors—I speak freely and warmly too, because I feel it—I have during the 26 years I have exchanged *Unio*'s distributed more specimens than any other living Man—they are in *all* the foreign collections private & public. My names are such as long investigations proved satisfactory to my mind, and reputation even as a Nomenclator is dear to me, far too dear, to be taken away in this manner even by implication. I do not wish to be forced to speak of this Catalogue to my Correspondents Abroad

as in justice to myself I shall be compelled to if no correction is made in it — A supplement should at once be published containing the rejected list of Names & thus some little justice be done such Authors as Say, Conrad, & Rafinesque who are at least *equal* to Lea, however much he may endeavor to produce a contrary impression.

One other *Grand Error* in the Catalogue is in the *Margaritana* where Mr. Lea unhesitatingly places his name as author to 25 out of the 26 species enumerated, while the fact is that he never described more than 16 of the whole number — how ridiculous to place his name to a shell which was named almost before he was born, as in the case of *M. margaritifera* — Mr. Lea's only claim being in Consequence merely of his having so placed them in a Catalogue as "*Margaritana*" instead of "*Alasmodon*" a very cheap way of attaining authorship truly & tomorrow somebody else may transfer the entire lot to some other Genus and claim the authorship in like manner in *his* turn — how much easier this is than troubling oneself to describe a species — "*Authorship made easy*" with a vengeance — Mr. Lea in this way has his name printed as author to one species which he at the same time confesses he has *Never Seen!!!* how much further can absurdity go — In *Anodonta* Mr. Lea claims two species at least which he never described viz *A. edentula* & *fluviatilis* — the first being Says & the last Mr. Lea himself states was Lister's "*Mya fluviatilis*" — Now if the removal into its proper Genus be a sufficient claim certainly Mr. Say could rightly claim this species since he honestly described it as *A. cataracta*" whereas Mr. Lea never described it at all still claims it by stealing Listers name and clapping his own at the end as Author — just as he did with Solanders "*complanatus*" — If I had time & Patience I could point out other as glaring errors but I have said enough — excuse my plainness — my Quaker blood and training never taught me to mince matters where injustice was concerned.

Please let me hear from you on the subject.

Very truly yrs

John G. Anthony

In 1838 Mrs. Thomas Say presented Anthony with two new species of shells which she had collected at the Falls of Kanawha in Virginia. These were given with the distinct understanding that one of them should be named after her particular friend, Dr. J. P. Kirtland, who was also a friend of Anthony. This he says "accounts for the departure from a long cherished rule not to name species after individuals. . . . thus to propitiate the inordinate vanity of some ignorant collector." Consequently *Anculosa kirtlandiana* and *Amnicola sayana* are unique in being Anthony's only patronymics. All other species published by him have descriptive names. According to Anthony's notes Mrs. Say illustrated a number of shells for him; among them were *Anculosa kirtlandiana* and *A. carinata*, the two she had collected.

By 1863 Anthony had published five papers on fossils and ten on mollusks, several of which were read before the Boston Society of Natural History, of which Agassiz was a member. By this time Anthony's correspondence and exchanges had grown to considerable proportions, and he hoped for a position in a museum or other institution in which he could earn a living while working on shells. At that time the Museum of Comparative Zoölogy at Harvard was four years old and growing rapidly, and though Agassiz had considerable student help he was looking for an assistant in Mollusks. Their letters crossed in the mail—the one Anthony wrote to Agassiz asking for a position and that of Agassiz offering the position to Anthony.

Louis Agassiz in his annual report of the Museum of Comparative Zoölogy for 1863 writes "It has been my good fortune to secure the co-operation of Mr. J. G. Anthony, who has been for nearly forty years one of the leading conchologists of America, and his zeal and activity, as well as his exquisite neatness in putting up specimens will soon change the whole aspect of that department of the museum." Thus, in August 1863 Anthony, at the age of 60, arrived in Cambridge to become a part of one of the most active and important institutions of its kind in the new world.

During the fourteen years in which Anthony was Assistant at the Museum of Comparative Zoölogy he did much to build up the Department of Mollusks. It is to him that we must give credit for the presence in the collection of many of the type



specimens of the early workers in conchology. At this formative period in the development of malacology, Anthony's interest in the collection was paramount and, because of his willingness to carry on extensive exchanges with Hugh Cuming, Lovell Reeve, Temple Prime, James C. Cox, H. Dohrn and others, material poured into the laboratory almost faster than Anthony was able to absorb it. The Cuming material, especially that from the Philippines, was an invaluable addition to the collection as it was composed almost entirely of types. Anthony also sold his collection to the museum and with it came numerous types which he had previously obtained as well as his large collection of North American fresh-water shells.

Following the accepted procedure of the day Anthony aimed to have every species of mollusk on exhibit and consequently he spent a large part of his time carefully gluing specimens to slate, glass and wooden plaques. Carefully written, detailed records were kept of the exact number of specimens mounted each month. The following excerpt was taken from his annual report for 1869. "In the past 12 months we have added 9250 tablets to the 17 [thousand] then on hand so that we have 26250 tablets mounted with 67749 specimens. Of this number 22403 tablets have been mounted by the writer during the six years he has been connected with the museum, and the remaining 3847 tablets have been added by the three female assistants, who under the policy recently adopted have been mostly employed in preparing tablets, but who have also occasionally been allowed to mount the specimens under proper supervision." Again in 1870 he wrote "Besides the important addition of 2417 mounted tablets to our previous number, I have, in the process of re-arrangement, found it necessary also to remount a very large number of the species. This has been owing to the unsatisfactory nature of the cement first used for the purpose, the very dry atmosphere of our exhibition rooms operating unfavorably upon all the cements known, at the time when we commenced this mode of exhibiting shells. Much time and labor has been bestowed upon this problem of the best cement for the purpose, and I am happy to be able to say that I have so far succeeded in removing all difficulties that we may reasonably hope to be spared hereafter the time and labor of remounting, our present cement seeming to be all that we could desire or expect."



With the change in curatorial procedure those who have followed Anthony have had to spend a great deal of time removing these same specimens from their plaques. The glue was certainly all that Anthony had hoped it would be! In working up the Anthony types in our collection we came across a box of *Amnicola cincinnatiensis* Anthony containing over 2000 specimens and the following note was left by W.F. Clapp "These were all glued on tablets, 12 per tablet." Obviously these could not all have been for exhibit but had probably been prepared for exchange.

Anthony had an unusually beautiful handwriting, his labels looked like steel engravings and his notes were so neatly and perfectly written that one would think that they had been printed. Agassiz, appreciating this art, often asked Anthony to copy addresses and poems which were to be presented to friends and benefactors of the museum. In a letter to his wife Anthony tells of copying the address written by Oliver Wendell Holmes on the occasion of the dinner given to Agassiz before leaving on the Thayer Expedition. Holmes also wrote a poem on this expedition which was presented to the Emperor of Brasil and again it was copied by Anthony.

In 1865 Anthony accompanied Louis Agassiz and others of his staff on the Thayer Expedition to Brasil. Anthony's letters to his wife written during the early part of the trip continually refer to his improved health and his increased ability to eat, for he had been suffering for some time with a chronic stomach ailment. However, despite his improved condition Anthony did but little collecting for the expedition as he contracted yellow fever shortly after arriving in Río de Janeiro and consequently returned to Cambridge. While other members of the party continued to collect mollusks to some extent there was no published report made on the material collected on this expedition.

John Henry Blake became a member of the Museum staff in 1867 and for the next ten years was a close friend of Anthony. The following notes have been taken from Blake's letter to William J. Clench in which he gives an informal picture of the museum's first curator of mollusks as he remembered him.

"From the time I first knew him [Anthony] until his death

we were the best of friends, although there was friction between him and others in the Museum.

"I have even thought I was assigned a table next to him, by Prof. Agassiz, partly because of his disposition to be easily disturbed.

"The first section of the museum only was then built, and the accommodations for workers were limited. In this room, at one time, there were nine or ten persons, and in some places, the trays of specimens were piled much higher than one could reach. There were no cases for trays in this room.

"He did not go home to lunch but brought a brown, pint bottle containing milk, egg and a little brandy which was his lunch, and he left the museum for the day at 3 o'clock P.M. Before he left, however, he brushed all his dirt out by my table and left it there. This act was as regular as the day but I never remonstrated. When he was sick at his home, corner of Magazine and Green Streets, Cambridgeport, he always wrote to me and I visited him many times on errands in connection with his Museum work. If he wanted acid, or chemicals to make the glue used extensively in his work I would buy it at John Hubbard's in Harvard Square, on my way to my boarding place on Mt. Auburn Street.

"I do not remember his writing a scientific paper, not counting his regular annual reports, while at the Museum. His time seemed to be taken chiefly in preparing specimens for exhibition or exchanges. He devoted much time in mounting specimens on wood, card, slate and painted glass. He was always making improvements in his glue as I heard him tell Professor Agassiz a number of times.

"He was a very steady worker and hardly left his chair from the time he came 'til he went. He did not attend Prof. Agassiz's lecture in the next room with the rest of us. These lectures by Professor Agassiz were very popular. Although they were regular College lectures I have seen the room crowded, floor and gallery, extra chairs taken in and yet Mr. Anthony remained at his work.

"He often made puns or played upon words. He liked to tell a joke but did not like to have a joke played on him. As an example: One 1st of April Dr. Wilder and I attempted a joke. We got an old dry "mermaid" from the attic, put it in a box

and got Mr. Roetter to put on it in German script Mr. Anthony's address with "you are an April Fool" in the corner. Mr. Anthony came in saw the box and with some gusto said he had received a box of shells. He was a little puzzled over the address so took off the cover, saw the contents and took the cover to Mr. Roetter to read. Mr. Roetter read it ending with the "you are an April Fool." Mr. Anthony was so mad he took the box out of the room, and I have not seen the "mermaid" since, he never spoke to Dr. Wilder after. I told Mr. Anthony I was as guilty as Dr. Wilder but he said he could excuse me as I was young, but Dr. Wilder was too old to play such a joke."

As is evidenced from J. Henry Blake's letter, Anthony's ill health not only caused his absence from the Museum for long periods of time, but was no doubt partially responsible for his lack of research after 1866.

On October 16, 1877 Anthony, then 73 years old, died at his home in Cambridgeport of cancer of the stomach. He was buried at the Swan Point Cemetery in Providence, Rhode Island.

The year of his death, Alexander Agassiz, then Director of the Museum of Comparative Zoölogy, paid Anthony the following tribute in his Annual Report. ". . . his time and energies were given to the department of Conchology with such assiduous and entire devotion as is rarely equaled. He had held correspondence and conducted exchanges with almost all active conchologists and shell collectors of his time, who never failed to appreciate the remarkable skill in exchanging, the complete knowledge of the relative value of specimens, and the wide acquaintance with the traditions of conchology, which were the fruits of his long experience."

Though a great many of Anthony's species have fallen into synonymy he made many important contributions to Conchology and to the Museum of Comparative Zoölogy in particular. The following note by Calvin Goodrich, who today is the man most capable of judging Anthony's work on the Pleuroceridae.

"I would say that Anthony was of very real importance in his day in that he made collections when collectors were few and far apart, that he did this when contacts with other nat-

uralists were almost non-existent—a very lonesome sort of career—that he made descriptions according to his lights, and these were no worse, and sometimes better, than those of his contemporaries. In the end, the collection remained intact, and available—a thing it would be difficult for us to put too high a price upon.”

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#### ACKNOWLEDGMENTS

The author is indebted to Miss Fanny Garrison, granddaughter of J.G. Anthony, for much valuable information and especially for the gift to the Museum of Comparative Zoölogy of many of Anthony's letters and unpublished notes. Thanks are extended to Professor W. B. Hendrickson of MacMurray College for the loan of material which he had gathered on the Western Academy of Natural Sciences. For copies of Anthony's letters and other information on his life we are indebted to Dr. Harald Rehder, the United States National Museum; Dr. Henry Vander Schalie, the Museum of Zoölogy at the University of Michigan; Miss Lillian C. Wuest, reference Librarian of the Historical and Philosophical Society of Ohio; Miss Ethel L. Hutchins, Reference Department of the Public Library of Cincinnati, Ohio; and Mr. George F. Johnson, Deputy City Registrar, Providence, Rhode Island. Mr. Calvin Goodrich gave many valuable suggestions, especially on the evaluation of Anthony's work. Lastly this paper could never have been completed except for the guidance and encouragement of William J. Clench.

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- 1840, January, Descriptions of three new species of shells. *Boston Journal of Natural History* **3**, pp. 278-279, pl. 3, fig. 1-3.
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- 1865, July, Descriptions of Two New Species of *Monocondy-loea*. American Journal of Conchology **1**, p. 205, pl. 18, fig. 1-2.
- 1865, July, Descriptions of a New Exotic *Melania*. American Journal of Conchology **1**, p. 207, pl. 18, fig. 3.
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*A List of Recent Mollusks described by J. G. Anthony with their original references and type localities.*

The initials BJNH refer to the Boston Journal of Natural History, PBSNH to the Proceedings of the Boston Society of Natural History, PANSP to the Proceedings of the Academy of Natural Sciences Philadelphia, ALNHNY to the Annals of the Lyceum of Natural History New York, AJC to the American Journal of Conchology, and MCZ to the Museum of Comparative Zoölogy.

Most of Anthony's species of Pleuroceridae [*Melania*] which were not figured with the original descriptions were figured by Tryon from Anthony's specimens in 1873; Land and Fresh-water Shells of North America, Part 4, Strepomatidae, Smithsonian Miscellaneous Collections no. 253.

All locality data in brackets in this report were taken from the original labels or Anthony's unpublished notes.

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- abscida, *Melania*:** 1860, PANSP, p. 56 (Alabama) [Holotype MCZ 161716].
- adusta, *Melania*:** 1860, PANSP, p. 55 (Tennessee) [Holotype MCZ 47368].
- artilis, *Cyclas*:** 1844, PANSP **2**, p. 161, Ohio [nude name].
- atile 'Anthony' Prime, *Pisidium*:** 1852, BJNH **6**, p. 353, pl. 11, fig. 10-12. (Canandaigua Lake, New York and Miami Canal, near Cincinnati, Ohio) [Cotypes MCZ 154406].
- altipeta, *Melania*:** 1854, ALNHNY **6**, p. 87, pl. 2, fig. 5a-b (Racoon Creek, Vinton County, Ohio) [Cotypes MCZ 161755].
- amazonica 'Anthony' Prime, *Corbicula*:** 1870, ALNHNY **9**, p. 299 (Amazon River, Brasil - from the stomach of a fish) [Cotypes MCZ 143095].
- ambusta *Melania*:** 1854, ALNHNY **6**, p. 94, pl. 2, fig. 13 (Alabama) [Holotype MCZ 74191].
- ampla, *Anculosa*:** 1855, ALNHNY **6**, p. 159, pl. 5, fig. 22-23 (Alabama) [Cotypes MCZ 161803].
- ampla, *Gyrotoma*:** 1860, PANSP, p. 66 (Coosa River, Alabama) [Holotype MCZ 85803].
- ampla, *Melania*:** 1854, ALNHNY **6**, p. 93, pl. 2, fig. 12 (Alabama) [Holotype MCZ 161735].
- angulata, *Melania*:** 1854, ALNHNY **6**, p. 117, pl. 3, fig. 17 (Tennessee) [Holotype MCZ 161845].
- angusta 'Anthony' Reeve, *Melania*:** 1860, Conch. Icon. **12**, pl. 48, species 359 (United States) [Types in Cuming Collection].
- angustispira, *Melania*:** 1860, PANSP, p. 55 (Tennessee) [Holotype MCZ 161719].

- Apella** 'Mighels' Anthony:\* 1843, PANSP, p. 251. This manuscript name of Mighels was first introduced by Anthony as a synonym of *Schizostoma* Lea 1843 (*non* Bronn 1834; *non* Schlaeter 1838) in a letter which was published as above. As *Apella* 'Mighels' Anthony equals *Schizostoma* Lea, it is the next available name for this genus as *Schizostoma* Lea is a homonym. This will replace *Gyrotoma* Shuttleworth 1845, as *Apella* has two years priority.
- arachnoidea, Melania:** 1854, ALNHNY 6, p. 95, pl. 2, fig. 14 (small stream emptying into the Tennessee River near Loudon, Tennessee) [Holotype MCZ 50236].
- assimilis, Melania:** 1860, PANSP, p. 60 (Tennessee) [Cotypes MCZ 161827].
- athleta, Melania:** 1854, ALNHNY 6, p. 83, pl. 2, fig. 1 (Tennessee [Bacon Creek near Mumfordsville, Kentucky]) [Holotype MCZ 161751].
- attenuata** 'Anthony' Reeve, **Melania:** Conch. Icon. 12, pl. 56, species 438 (Cuba [Anthony received this species from Poey]) [Cotypes MCZ 74771].
- baculum, Melania:** 1854, ALNHNY 6, p. 98, pl. 2, fig. 16 (Tennessee) [Holotype MCZ 161820].
- bicincta, Melania:** 1860, PANSP, p. 56 (Tennessee [North Carolina]) [Cotypes MCZ 161823].
- bicolor** 'Anthony' Reeve, **Melania:** 1860, Conch. Icon. 12, pl. 38, species 265 (United States).
- bicolorata, Melania:** 1850, PBSNH 3, p. 361 (Camp Creek near Madison, Indiana) [Holotype MCZ 161721].
- bicostata, Melania:** 1860, PANSP, p. 56 (near Athens, Tennessee) [Holotype MCZ 161778].
- brevis, Io:** 1860, PANSP, p. 69 (Tennessee) [Holotype MCZ 50551].
- brevispira, Melania:** 1850, PBSNH 3, p. 361 (Ohio) [Cotypes MCZ 161690].
- brunnea, Melania:** 1854, ALNHNY 6, p. 92, pl. 2, fig. 10 (Alabama) [Cotypes MCZ 74208].
- bulbosa** 'Anthony' Prime, **Cyclas:** 1853, PBSNH 4, p. 283 (Arkansas) [Cotype MCZ 19436].
- bulbosa, Gyrotoma:** 1860, PANSP, p. 65 (Coosa River, Alabama) [Cotypes MCZ 50661].
- canalifera, Anculosa:** 1860, PANSP, p. 68 (Dan River, North Carolina) [Cotypes 161791].
- carinatus, Anculotus:** 1840, BJNH 3, p. 394, pl. 3, fig. 5 (Falls of the Kanawha, [West] Virginia, collected by Mrs. Thomas Say) [Cotypes MCZ 143103].
- carinifera, Gyrotoma:** 1860, PANSP, p. 66 (Coosa River, Alabama) [Holotype MCZ 45149].
- casta, Melania:** 1854, ALNHNY 6, p. 100, pl. 2, fig. 19 (Alabama) [Holotype MCZ 74189].
- cerinoidea, Helix:** 1865, AJC 1, p. 351, pl. 25, fig. 3 (North Carolina).

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\*This as well as similar cases of manuscript names published in the synonymies of described species is covered in Article 25 and Opinion 53 of the International Commission on Zoological Nomenclature.

- chalybea** 'Anthony' Brot, **Melania**: 1862, Catalogue systématique des espèces qui composent la Famille des Mélaniens, Genève, p. 37 [nude name listed under the synonymy of *M. abbreviata* Anthony. Its later use by Goodrich (1940, p. 6) as a synonym of *Lithasia obovata* Say is untenable as the first listing of a nude name as a synonym automatically causes that name to take the description of that species]. (Tennessee) [Cotypes MCZ 156350].
- cincinnatiensis**, **Paludina**: 1840, BJNH 3, p. 279, pl. 3, fig. 3 (in canal near Cincinnati, Ohio) [Cotypes MCZ 142813].
- cingenda**, **Goniobasis**: 1866, AJC 2, p. 146, pl. 7, fig. 3 (North Carolina) [Holotype MCZ 161807].
- cinnamomea** 'Anthony' Reeve, **Melania**: 1861, Conch. Icon. 12, pl. 50, species 379 (Alabama) [Holotype MCZ 161816].
- clara**, **Melania**: 1854, ALNHNY 6, p. 119, pl. 3, fig. 19 (Alabama) [Holotype MCZ 72329].
- cognata**, **Melania**: 1860, PANSP, p. 60 (Tennessee) [Cotypes MCZ 161836].
- compacta**, **Melania**: 1854, ALNHNY 6, p. 122, pl. 3, fig. 22 (Alabama) [Holotype MCZ 72063].
- concauus**, **Planorbis**: 1843, Catalog of the Terrestrial and Fluvial Shells of Ohio. (Ohio) [nude name].
- concauus** 'Anthony' Binney, **Planorbis**: 1865, Smithsonian Miscellaneous Publication no. 143, Land and Fresh-water Shells of North America Part 2, p. 133 [nude name listed under the synonymy of *Planorbis parvus* Say]. [Cotypes MCZ 156352].
- concolor** 'Anthony' Brot, **Anculosa**: 1862, Catalogue systématique des espèces qui composent la Famille des Mélaniens, Genève, p. 24 [nude name listed under the synonymy of *Leptaxis integra* Say].
- consanguinea**, **Melania**: 1854, ALNHNY 6, p. 125, pl. 3, fig. 26 (Indiana) [Holotype MCZ 58411].
- constricta** 'Anthony' Prime, **Cyclas**: 1853, PBSNH 4, p. 274 ( [Miami Canal near Cincinnati] Ohio) [Cotypes MCZ 19511].
- coracina**, **Melania**: 1850, PBSNH 3, p. 361 (Cany Fork [of Cumberland River] Tennessee) [Holotype MCZ 161847].
- corneola**, **Melania**: 1860, PANSP, p. 61 (Alabama) [Holotype MCZ 161822].
- coronilla**, **Melania**: 1854, ALNHNY 6, p. 126, pl. 3, fig. 27 (Tennessee) [Cotypes MCZ 50243].
- corpulenta**, **Anculosa**: 1860, PANSP, p. 68 ( [Dan River] North Carolina) [Cotypes MCZ 161800].
- corpulenta**, **Melania**: 1854, ALNHNY 6, p. 127, pl. 3, fig. 28 (Alabama) [Holotype MCZ 161744].
- costatus**, **Anculotus**; 1840, BJNH 3, p. 278, pl. 3, fig. 1 (on pebbly shore [Ohio River] near Cincinnati, Ohio) [Cotypes MCZ 143101].
- crebristriata**, **Monocondyloea**: 1865, AJC 1, p. 205, pl. 18, fig. 1 (Pegu, British Burmah) [Holotype MCZ 161872].
- cristata**, **Melania**: 1854, ALNHNY 6, p. 108, pl. 3, fig. 8 (Alabama) [Holotype MCZ 47794].
- cubicoides**, **Melania**: 1860, PANSP, p. 60 (Wabash River, Indiana) [Holotype MCZ 161696].

- cuspidata, Melania:** 1850, PBSNH 3, p. 362 (Maumee River, Ohio) [Paratypes MCZ 79430].
- curvicostata 'Anthony' Reeve, Melania:** 1861, Conch. Icon. 12, pl. 58, species 462 (Florida, United States) [Types in Cuming Collection].
- curvilabris, Melania:** 1854, ALNHNY 6, p. 102, pl. 3, fig. 1a-b (Tennessee) [Holotype MCZ 50245].
- decapitata, Paludina:** 1860, PANSP, p. 71 (Tennessee) [Holotype MCZ 161888].
- decorata, Melania:** 1860, PANSP, p. 55 (Oostanulla River, Georgia) [Cotypes MCZ 50231].
- demissa, Gyrotoma:** 1860, PANSP, p. 64 (no locality given [Coosa River, Alabama]) [Holotype MCZ 50693].
- densa, Melania:** 1850, PBSNH 3, p. 360 (Maury's Creek, Tennessee) [Holotype MCZ 161734].
- deviatus 'Anthony' Reeve, Unio:** 1864, Conch. Icon. 16, pl. 15, species 61 (North America) [Types in Cuming Collection].
- deviatus, Unio:** 1865, AJC 1, p. 156, pl. 12, fig. 2 (Tennessee) [Holotype MCZ 161895].
- distans, Unio:** 1865, AJC 1, p. 156, pl. 13, fig. 2 (Ohio) [Holotype MCZ 146978].
- eburnea 'Anthony' Prime, Cyclas:** 1853, PBSNH 4, p. 279 (Arkansas) [Cotypes MCZ 19496].
- elata, Melania:** 1851, PBSNH 3, p. 362 (Maumee River [at Perrysburgh] Ohio) [Holotype MCZ 79423].
- elator, Ancyclus:** 1855, ALNHNY 6, p. 158, pl. 5, fig. 20-21 (Green River, Kentucky [near Mumfordsville]) [Cotypes MCZ 161851].
- elegans, Anculosa:** 1860, PANSP, p. 69 (Alabama) [Holotype MCZ 161798].
- elegantula, Melania:** 1854, ALNHNY 6, p. 103, pl. 3, fig. 2 (Kentucky) [Holotype MCZ 50251].
- eliminata, Melania:** 1854, ALNHNY 6, p. 97, pl. 2, fig. 15 (near Owenboro, Kentucky) [Cotype MCZ 161839].
- ellipticum 'Anthony' Reeve, Melatoma:** 1861, Conch. Icon. 12, pl. 3, species 21 (Coosa River, Alabama) [Cotypes MCZ 50669].
- excavata, Melania:** 1854, ALNHNY 6, p. 99, pl. 2, fig. 18 (Alabama) [Holotype MCZ 161738].
- exilis, Paludina:** 1860, PANSP, p. 71 (Mississippi) [Holotype MCZ 161885].
- eximia, Melania:** 1854, ALNHNY 6, p. 107, pl. 3, fig. 7 (Tennessee) [Holotype MCZ 161759].
- fastigiata, Melania:** 1854, ALNHNY 6, p. 113, pl. 3, fig. 13 (Tennessee) [Holotype MCZ 161766].
- flava, Anodon:** 1865, AJC 1, p. 160, pl. 14, fig. 3 (Michigan) [Holotype MCZ 161866].
- formosa 'Anthony' Reeve, Melania:** 1861, Conch. Icon. 12, pl. 51, species 387 (Alabama).
- fragosa 'Anthony' Reeve, Melania:** 1861, Conch. Icon. 12, pl. 57, species 543 [453] (no locality given [Alabama]) [Cotypes MCZ 161739].

- funnebralis, Melania:** 1860, PANSP, p. 56 (Tennessee) [Holotype MCZ 161723].
- fusco-cincta, Melania:** 1854, ALNHNY **6**, p. 120, pl. 3, fig. 20 (Alabama) [Holotype MCZ 74206].
- germana, Melania:** 1860, PANSP, p. 61 (Cahawba River, Alabama) [Holotype MCZ 72806].
- gibbosa 'Anthony' Reeve, Io:** 1861, Conch. Icon. **12**, pl. 3, species 17 (Southern United States [Tennessee]) [Holotype MCZ 50558].
- glandula, Melania:** 1860, PANSP, p. 60 [new name for *Melania glans* Anthony, non V. d. Busch 1842].
- glandulosa, Anodon:** 1865, AJC **1**, p. 163, pl. 16, fig. 3 (Michigan) [Holotype MCZ 161869].
- glans, Melania:** 1854, ALNHNY **6**, p. 123, pl. 3, fig. 23 (Tennessee) [Holotype MCZ 161773] [is *Melania glandula* Anthony].
- glauca, Melania:** 1860, PANSP, p. 57 (Tennessee) [Holotype MCZ 161746].
- gloriosa, Melania:** 1865, AJC **1**, p. 207, pl. 18, fig. 2 (Pegu, [British Burma]) [Holotype MCZ 74106].
- gracilior, Melania:** 1854, ALNHNY **6**, p. 129, pl. 1, fig. 5 [new name for *M. gracilis* Anthony, non Lea 1841] (Congress and Springfield Lakes, Stark County, Ohio).
- gracilis, Melania:** ? List of the Land and Fresh-water Shells found chiefly in the vicinity of Cincinnati (First Edition) [nude name].
- gracilis, Melania:** 1842, [in] S. S. Haldeman, A Monograph of the Fresh-water Univalves Mollusca of the United States, Philadelphia, outside of back cover of no. 4 (Stark County, Ohio) [Holotype MCZ 161731] [is *M. gracilior* Anthony].
- gracillima, Melania:** 1860, PANSP, p. 62 (South Carolina) [Cotypes MCZ 161846].
- gradata, Melania:** 1854, ALNHNY **6**, p. 112, pl. 3, fig. 12 (Alabama) [Holotype MCZ 45375].
- grata, Melania:** 1860, PANSP, p. 61 (Alabama) [Cotypes MCZ 36219].
- gravida, Melania:** 1860, PANSP, p. 59 (Alabama) [Holotype MCZ 74187].
- grisea, Melania:** 1860, PANSP, p. 61 (Tennessee River, north Alabama) [Holotype MCZ 161741].
- grossa, Melania:** 1860, PANSP, p. 59 (Tennessee) [Holotype MCZ 161768].
- hastata, Melania:** 1854, ALNHNY **6**, p. 85, pl. 2, fig. 3 (Alabama) [Holotype MCZ 161753].
- humerosa, Paludina:** 1860, PANSP, p. 71 (Alabama) [Holotype MCZ 72332].
- hybrida, Melania:** 1860, PANSP, p. 60 (Tennessee) [Cotypes MCZ 161810].
- imbricata, Anodon:** 1865, AJC **1**, p. 159, pl. 14, fig. 1 (Camp Lake, Michigan) [Holotype MCZ 161860].
- imbricata, Melania:** 1854, ALNHNY **6**, p. 105, pl. 3, fig. 5 (Alabama) [Holotype MCZ 74199].
- impressa, Alasmodon:** 1865, AJC **1**, p. 157, pl. 12, fig. 4 (Tennessee) [Holotype MCZ 150666].



- incrassata, Melania:** 1854, ALNHNY 6, p. 99, pl. 2, fig. 17 (locality unknown) [Holotype MCZ 45374].
- incurta** 'Anthony' Reeve, **Melania:** 1860, Conch. Icon. 12, pl. 41, species 300 (United States) [Types in Cuming Collection].
- inemta, Melania:** 1850, PBSNH 3, p. 362 (Virginia) [Paratypes MCZ 31065].
- inermis, Io:** 1860, PANSP, p. 70 (Tennessee) [Holotype MCZ 50228].
- infraciata, Melania:** 1860, PANSP, p. 57 (Tennessee) [Cotypes MCZ 161772].
- inornata, Anodon:** 1866, AJC 2, p. 145, pl. 7, fig. 1 (Slawson's Lake, Michigan) [Holotype MCZ 161867].
- inornata, Melania:** 1850, PBSNH 3, p. 360 (Lorain County, Ohio [Maumee River, Ohio]) [Holotype MCZ 161692].
- intensa, 'Anthony' Reeve, Melania:** 1860, Conch. Icon. 12, pl. 49, species 371 (United States) [Types in Cuming Collection].
- interlineata, Goniobasis:** 1865, AJC 1, p. 36, pl. 1, fig. 3 (Christy Creek, Indiana [Clifty Creek]) [Holotype MCZ 161726].
- intertexta, Melania:** 1860, PANSP, p. 62 ([Loudon] Tennessee) [Holotype MCZ 50235].
- iostoma, Melania:** 1860, PANSP, p. 62 (Tennessee) [Holotype MCZ 161756].
- iota, Melania:** 1854, ALNHNY 6, p. 86, pl. 2, fig. 4 (locality unknown [Raccoon Creek, Vinton County, Ohio]) [Lectotype MCZ 161811].
- irisans, Anodon:** 1865, AJC 1, p. 163, pl. 16, fig. 2 (Bostwick's Lake [Kent County] Michigan) [Holotype MCZ 161870].
- kirtlandianus, Anculotus:** 1840, BJNH 3, p. 395, pl. 3, fig. 4 (Falls of the Kanawha, [West] Virginia, from Mrs. Thomas Say) [Cotypes MCZ 143104].
- lachryma** 'Anthony' Reeve, **Melania:** 1861, Conch. Icon. 12, pl. 59, species 473 (United States [Alabama]) [Cotypes MCZ 161745].
- latitans, Melania:** 1854, ALNHNY 6, p. 88, pl. 2, fig. 6 (Mammoth Cave, Kentucky) [Holotype MCZ 161992].
- ligata, Anculosa:** 1860, PANSP, p. 67 (Alabama) [Cotypes MCZ 161788].
- lima, Paludina:** 1860, PANSP, p. 70 (South Carolina) [Holotype MCZ 161887].
- lurida** 'Anthony' Reeve, **Io:** 1861, Conch. Icon. 12, pl. 3, species 20 (Southern United States [Tennessee]) [Holotype MCZ 50229].
- mcnielii, Anodon:** 1866, AJC 2, p. 144, pl. 6, fig. 1 (Michigan [Sand Lake]) [Holotype MCZ 150644].
- Melatoma:** 1843, PANSP, p. 251, *non* Swainson 1840. [This name was introduced by Anthony for a genus of the Pleuroceridae under the assumption that he was dealing with Swainson's genus. Swainson's *Melatoma* is a marine genus in the family Turridae.]
- micans, Anodon:** 1865, AJC 1, p. 162, pl. 16, fig. 1 (Texas) [Cotypes MCZ 161856].
- napella, Melania:** 1851, PBSNH 3, p. 362 (Ohio) [Lectotype MCZ 79431].
- neglecta, Melania:** ALNHNY 6, p. 128, pl. 3, fig. 29 (Great Miami River near Dayton, Ohio) [Holotype MCZ 161784].

- nigrocincta, Melania:** 1854, ALNHNY **6**, p. 90, pl. 2, fig. 8 (Tennessee) [Holotype MCZ 74195].
- nigrostoma** 'Anthony' Reeve, **Melania:** 1861, Conch. Icon. **12**, pl. 58, species 463 (Locality unknown [Tennessee] ) [Holotype MCZ 161764].
- nucleola, Melania:** 1850, PBSNH **3**, p. 360 (Tennessee) [Holotype MCZ 72064].
- nuclula** 'Anthony' Reeve, **Melatomia:** 1861, Conch. Icon. **12**, pl. 3, species 19 (Coosa River, Alabama) [Cotypes MCZ 50694]. Anthony says in his notes that this species was sent to Reeve under the name of *M. obliqua*. Reeve changed the name to *nuclula* in publishing.
- obesa** 'Anthony' Reeve, **Melania:** 1861, Conch. Icon. **12**, pl. 59, species 469 (Alabama) [Types in the Cuming Collection].
- obliqua** 'Anthony' Tryon, **Gyrotoma:** 1873, Smithsonian Miscellaneous Collection no. 253, Land and Fresh-water Shells of North America, Part 4, Strepomatidae, p. 378 [nude name listed under the synonymy of *Schizostoma incisum* Lea] (Alabama) [Cotypes MCZ 50694].
- occulta, Melania:** 1860, PANSP, p. 57 (Wisconsin [Madison] ) [Holotype MCZ 79427].
- opaca, Melania:** 1860, PANSP, p. 58 (Alabama) [Holotype MCZ 161762].
- opalina, Anodon:** 1865, AJC **1**, p. 159, pl. 14, fig. 2 (Shears Lake [Kent Co.] Michigan) [Holotype MCZ 150633].
- opalinus, Unio:** 1866, AJC **2**, p. 146, pl. 7, fig. 2 (Michigan) [Holotype MCZ 161893]. [This species has been synonymized by Simpson (Catalogue of the Freshwater Mussels, Detroit, Michigan, 1941, **1**, p. 116) under *Lampsilis iris* Lea. An examination of the types, however, places *opalinus* Anthony as a synonym under *L. siliquoidea* Barnes and not *iris* Lea].
- ornata, Anculosa:** 1860, PANSP, p. 67 (North Carolina) [Cotypes MCZ 161795].
- ornatum** 'Anthony' Reeve, **Melatomia:** 1861, Conch. Icon., **12**, pl. 2, species 11 (North Carolina, United States) [Coosa River, Alabama] ) [Holotype MCZ 50650].
- osculata, 'Anthony' Goodrich, Melania:** 1937 Occasional Papers Museum of Zoology, University of Michigan no. 404, p.4 [error for *M. occulta* Anthony].
- ovalis, Gyrotoma:** 1860, PANSP, p. 65 (Coosa River, Alabama) [Cotypes MCZ 50662].
- pagodiformis, Melania:** 1854, ALNHNY **6**, p. 106, pl. 3, fig. 6 (Battle Creek, Tennessee) [Cotypes MCZ 161833].
- pallida, Anodon:** 1865, AJC **1**, p. 162, pl. 15, fig. 3 (Michigan) [Holotype MCZ 161871].
- pallidula, Melania:** 1854, ALNHNY **6**, p. 115, pl. 3, fig. 15 (Tennessee) [Holotype MCZ 74193].
- papillosa, 'Anthony' Reeve, Melania:** 1861, Conch. Icon. **12**, pl. 59, species 467, fig. a-b (Florida) [Cotypes MCZ 50233].
- papyracea, Anodon:** 1865, AJC **1**, p. 161, pl. 15, fig. 2 (locality unknown [Potomac River, Virginia] ) [Holotype MCZ 150656].
- patula, Anculosa:** 1860, PANSP, p. 68 (Tennessee) [Cotypes MCZ 161890].

- paucicosta, Melania:** 1860, PANSP, p. 57 (Tennessee) [Cotypes MCZ 161813].
- paucicostata 'Anthony' Goodrich, Melania:** 1940, University of Michigan, Occasional Papers Museum of Zoology no. 417, p. 14 [error for *M. paucicosta* Anthony].
- paula 'Anthony' Brot, Melania:** 1862, Catalogue systématique des espèces qui composent la Famille des Mélaniens, Genève, p. 40 (no locality given [Kentucky]) [nude name].
- paula 'Anthony' Tryon, Melania:** 1873, Smithsonian Miscellaneous Collections no. 253, Land and Fresh-water Shells of North America, Part 4, Streptomatidae, p. 269 [Listed as a synonym of *Goniobasis sordida* Lea] [Cotypes MCZ 161713].
- peguensis, Monocondyloea:** 1865, AJC **1**, p. 205, pl. 18, fig. 3 [2] (Pegu [British Burma]) [Holotype MCZ 161877].
- peguensis, Unio:** 1865, AJC **1**, p. 351, pl. 25, fig. 2 (Pegu, British Burma) [Holotype MCZ 161875].
- planogyra, Melania:** 1854, ALNHNY **6**, p. 111, pl. 3, fig. 11 (Alabama) [Holotype MCZ 161776].
- planospire, Melania:** 1854, ALNHNY **6**, p. 123, pl. 3, fig. 24 (Tennessee [Kentucky]) [Holotype MCZ 161750].
- plebejus, Melania:** 1850, PBSNH **3**, p. 362 (Saline County, Arkansas) [Cotypes MCZ 161725].
- plebeius, Melania:** emended spelling for *plebejus*.
- plena, Melania:** 1852, ALNHNY **6**, p. 121, pl. 3, fig. 21 (Alabama) [Holotype MCZ 161763].
- ponderosa, Melania:** 1860, PANSP, p. 59 (Tennessee) [Holotype MCZ 92970].
- proscissa, Melania:** 1854, ALNHNY **6**, p. 109, pl. 3, fig. 9 (Alabama) [Holotype MCZ 51326].
- pulchella, Melania:** 1851, PBSNH **3**, p. 361 (Locality not given [Mad River near Springfield Clark Co., Ohio]) [Cotypes MCZ 161728].
- pulcherrima, Melania:** 1860, PANSP, p. 58 (North Carolina) [Cotypes MCZ 161830].
- pupoidea, Melania:** 1854, ALNHNY **6**, p. 104, pl. 3, fig. 3 (Alabama) [Holotype MCZ 161714].
- quadrata, Gyrotoma:** 1860, PANSP, p. 65 (Coosa River, Alabama) [Cotypes MCZ 50678].
- rarinodosa 'Anthony' Reeve, Melania:** 1860, Conch. Icon. **12**, pl. 38 species 268 (United States).
- recta, Gyrotoma:** 1860, PANSP, p. 64 (Coosa River, Alabama) [Cotypes MCZ 50685].
- recta 'Anthony' Reeve, Io:** 1861, Conch. Icon. **12**, pl. 3, species 18 (Tennessee, United States) [Holotype 50554].
- rhombrica, Alasmodon:** 1865, AJC **1**, p. 158, pl. 12, fig. 5 (Michigan) [Holotype MCZ 50296].
- rhombrica 'Anthony' Reeve, Io:** 1861, Conch. Icon. **12**, pl. 3, species 16 (Southern United States [Tennessee]) [Cotypes MCZ 50557].

- rhombica**, *Melania*: 1854, ALNHNY **6**, p. 116, pl. 3, fig. 16 (Alabama [Tennessee]) [Holotype MCZ 74185].
- rigida**, *Melania*: 1860, PANSP, p. 62 (Tennessee) [Cotype MCZ 161770].
- robulina**, *Melania*: 1850, PBSNH **3**, p. 363, ([Cany Fork] Cumberland River, Tennessee) [Holotype MCZ 51073].
- robusta**, *Gyrotoma*: 1860, PANSP, p. 67 (Coosa River, Alabama) [Cotypes MCZ 50689].
- sacculus** 'Anthony' Reeve, *Unio*: 1864, Conch. Icon. **16**, pl. 15, species 67 (North America) [Types in the Cuming Collection].
- sacculus**, *Unio*: 1865, AJC **1**, p. 157, pl. 12, fig. 3 (Tennessee) [Holotype MCZ 161898].
- salebrosa**, *Gyrotoma*: 1860, PANSP, p. 66 (Coosa River, Alabama) [Holotype MCZ 50687].
- sayana**, *Amnicola*: 1842, [in] S.S.Haldeman, A Monograph of the Fresh-water Univalve Mollusca of the United States, Philadelphia. On the outside of the back cover of no. 4 (no locality given [near Cincinnati, Ohio]) [Cotypes MCZ 142805].
- scabrella** 'Anthony' Reeve, *Melania*: 1861, Conch. Icon. **12**, pl. 51, species 388 (Georgia, United States) [Holotype MCZ 161841].
- scissura** 'Mighels' Anthony, *Apella*: 1843, PANSP, p. 251 [nude name].
- sphaerica** 'Anthony' Prime, *Cyclas*: 1853, PBSNH **4**, p. 275 (Loraine County, Ohio) [Cotypes MCZ 19524].
- sphaericum** 'Anthony' Reeve, *Melatoma*: 1861, Conch. Icon. **12**, pl. 2, species 8 (Coosa River, Alabama) [Holotype MCZ 50697].
- spirostoma**, *Io*: 1860, PANSP, p. 70 (Tennessee) [Holotype MCZ 50553].
- striatella**, *Helix*: 1840, BJNH **3**, p. 278, pl. 3, fig. 2 (Cincinnati [Ohio]) [Cotype MCZ 165522].
- striatissimus**, *Unio*: 1865, AJC **1**, p. 155, pl. 12, fig. 1 ([Clinch River] Tennessee) [Holotype MCZ 17356].
- subangulata**, *Anodon*: 1865, AJC **1**, p. 158, pl. 13, fig. 1 ([Shears Lake, Kent County] Michigan) [Holotype MCZ 150645].
- subangulata**, *Melania*: 1854, ALNHNY **6**, p. 91, pl. 2, fig. 9 (Alabama) [Holotype MCZ 74203].
- subcarinata** 'Anthony' Reeve, *Melania*: 1860, Conch. Icon. **12**, pl. 40, species 282 (United States) [Cotypes MCZ 161817].
- subgibbosa**, *Anodon*: 1866, AJC **2**, p. 144, pl. 6, fig. 2 (Black Lake, Michigan) [Holotype MCZ 161854].
- sub-inflata**, *Anodon*: 1865, AJC **1**, p. 160, pl. 15, fig. 1 (Michigan) [Holotype MCZ 161863].
- subsolida**, *Paludina*: 1844, PANSP **2**, p. 161 (Ohio) [nude name given in a list of shells presented to the Academy by Anthony].
- subsolida**, *Paludina*: 1860, PANSP, p. 71, (Illinois) [Holotype MCZ 161882].
- succinulata**, *Melania*: 1850, PBSNH **3**, p. 363 (Ohio [Clifty Creek, near Madison, Indiana]) [Lectotype MCZ 31066].
- sulcosa** 'Anthony' Reeve, *Anculotus*: 1861, Conch. Icon. **12**, pl. 6, species 44 (Alabama) [Holotype MCZ 73953].

- tabulata, Melania:** 1854, ALNHNY **6**, p. 118, pl. 3, fig. 18 (Tennessee).
- taeniolata, Melania:** 1860, PANSP, p. 59 (Alabama) [Holotype MCZ 161718].
- tecta, Melania:** 1854, ALNHNY **6**, p. 105, pl. 3, fig. 4 ( [Congress Lake] Ohio) [Cotypes MCZ 161685].
- tenebrocineta, Melania:** 1860, PANSP, p. 58 (Tennessee) [Holotype MCZ 161848].
- tenera, 'Anthony' Reeve, Melania:** 1861, Conch. Icon. **12**, pl. 53, species 407 (Alabama) [Cotypes MCZ 36218].
- textilosa, Melania:** 1854, ALNHNY **6**, p. 101, pl. 2, fig. 20 (Georgia) [Holotype MCZ 161740].
- torulosa, Melania:** 1854, ALNHNY **6**, p. 110, pl. 3, fig. 10 [Sinking Spring near Loudon] Tennessee) [Holotype MCZ 79295].
- tracta, Melania:** 1851, PBSNH **3**, p. 361 (Ohio [Tanner's Creek] Dearborn County, Indiana) ) [Holotype MCZ 119098].
- translucens, Goniobasis:** 1865, AJC **1**, p. 36, pl. 1, fig. 1-2 (Canada) [Holotype MCZ 31068].
- turrita, Io:** 1860, PANSP, p. 69 (Tennessee) [Holotype MCZ 50555].
- undososa, Melania:** 1854, ALNHNY **6**, p. 124, pl. 3, fig. 25 (Nolen River, Kentucky) [Holotype MCZ 58407].
- valida, Melania:** 1860, PANSP, p. 59 (Tennessee) [Cotypes MCZ 161774].
- vermetus, Bulimus:** 1841, [in] S.S.Haldeman, A Monograph of the Fresh-water Univalve Mollusca of the United States, Philadelphia. Inside of the back cover of no. 3 (Ohio near Cincinnati). Binney (A Manual of American Land Shells, 1885, p. 409) lists *vermetus* among the spurious species of *Bulimus* and states "is unknown to me, nor during my intimate acquaintance with him, lasting for many years, could he ever give me any information about it." Pilsbry (The Manual of Conchology, 1901, **14**, p. 173) states "is a lost species which American students have not been able to trace." Among Anthony's unpublished notes is the following "The only *Bulimus* herein described is *Bulimus vermetus* and it is somewhat doubtful if this is clearly entitled to be included in that genus. Its round, continuous aperture, it is true, would indicate that as its appropriate position but as some of the *Limnaea* occupy localities nearly or quite as dry as this was found in, and, as but for its connected aperture, it much resembles *L. humilis*, it is not improbable that closer observation may prove it to belong to the later genus. Its unusual thinness and sharp linear form are more indicative of *Limnaea* than they are of *Bulimus*. Only three specimens have as yet been noticed, when numerous individuals shall have been examined some definite conclusions will no doubt be arrived at with regard to its generic character."

Anthony never found any more specimens, or if he did his *vermetus* proved



to be nothing more than malformed *L. humilis* and he no longer kept the specimens separated. We have been unable to find any specimens in the collection labeled *B. veremetus*.

**versipellis, Melania:** 1860, PANSP, p. 60 (Tennessee) [Cotypes MCZ 161809].

**vicina, Melania:** 1854, ALNHNY 6, p. 114, pl. 3, fig. 14 (Alabama) [Holotype MCZ 74201].

**virens, Melania:** 1854, ALNHNY 6, p. 93, pl. 2, fig. 11 (Alabama [Tennessee]) [Holotype MCZ 74194].

**viridula, Anculosa:** 1860, PANSP, p. 68 (Tennessee) [Cotypes MCZ 161789].

**viridula, Melania:** 1854, ALNHNY 6, p. 84, pl. 2, fig. 2 (Tennessee) [Cotypes MCZ 161780].

**vittata, Melania:** 1854, ALNHNY 6, p. 89, pl. 2, fig. 7 (Alabama [White Co., Georgia]) [Holotype MCZ 50246].

**zebra, Anculosa:** 1860, PANSP, p. 69 (Alabama) [Cotypes MCZ 161793].

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#### ANTHONY'S GLUE

The following formula was taken from Anthony's unpublished notes. We have not tried it but if this is Anthony's improved formula it will certainly make an effective glue. Fortunately for us this glue was partially water soluble so that shells and labels were easily removed from their plaques by soaking in water.

"Cut 2 lb Indian Rubber into thin small slices put them into a vessel of tinned sheet iron and 12 to 14 oz. of Sulphide of Carbon — place in another vessel heated to 86° fahrenheit [water bath?] solution rapid.

To keep liquid add:

Cut 1 lb. Caoutchouc into thin small slices, heat them in a suitable vessel over a moderate fire until fluid. Add  $\frac{1}{2}$  lb. of powdered Resin & melt both at moderate heat when fluid add 3 to 4 oz. of spirits of Turpentine gradually in small portions and stir well."